

DoDAF V2.0 Overview

28 April 2010

Mr. Shelton Lee

Architecture, Standards, and Interoperability Directorate

Office of the DoD Deputy Chief Information Officer

(703) 916-7340 shelton.lee@lmco.com

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 28 APR 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE DoDAF V2.0 Overview				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Lockheed Martin ,Office of the DoD Deputy Chief Information Officer,Architecture, Standards, and Interoperability Directorate,Washington,DC,20301				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the 22nd Systems and Software Technology Conference (SSTC), 26-29 April 2010, Salt Lake City, UT. Sponsored in part by the USAF. U.S. Government or Federal Rights License					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 38	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Introduction



- DoDAF is prescribed for the **use and development of Architectural Descriptions** in the Department
- DoDAF V2.0 provides an overarching set of architecture **concepts, guidance, best practices, and methods** to enable and facilitate architecture development
- Explicit Roles & Responsibilities
 - **Managers** guidance for use and management of architecture
 - **Architects** guidance for development of architecture, meta-model and data exchange requirements
 - **Developers** guidance defines the DM2 Physical Exchange Specification



Goal: Support Core Processes



1. Capabilities Integration and Development (JCIDS)
2. Planning, Programming, Budgeting, and Execution (PPBE)
3. Acquisition System (DAS)
4. Systems Engineering (SE)
5. Operations Planning
6. Capabilities Portfolio Management (CPM)



Promulgation Memo



- Version 2.0 is the prescribed framework for all Department architectures and represents a substantial shift in approach.
 - *Don't redo current architecture*
- Architectures shall comply with DoDAF V2.0 in their next major release.
 - *Update only in the next release*
 - *Does not prevent early adoption of DoDAF V2.0*



DoDAF V2.0 Conformance



- The data in an architectural description is defined according to the DoDAF meta-model (DM2) **concepts, associations, and attributes**.
 - The information captured in an architecture tool is consistent with the DM2 concepts, associations, and attributes.
 - Architectural data should be stored in a recognized commercial architecture tool that conforms to industry standards.
 - Tools, preferably **data-driven**, can be used for the **presentation** of architectural data, but must be based on DATA.
- The architecture data is capable of transfer in accordance with the **Physical Exchange Specification (PES)**.
 - Architectures that will exchange information need to comply with DM2 PES (for the appropriate architectural data).



Key Concepts





DoDAF V2.0 Key Concepts



- Data-centric v. Product Centric
- DoDAF V2.0 Meta-Model (DM2)
- DoDAF V2.0 Method
- DoDAF Described Models vs. Presentation Views
- “Fit-for-Purpose”



Authoritative Data





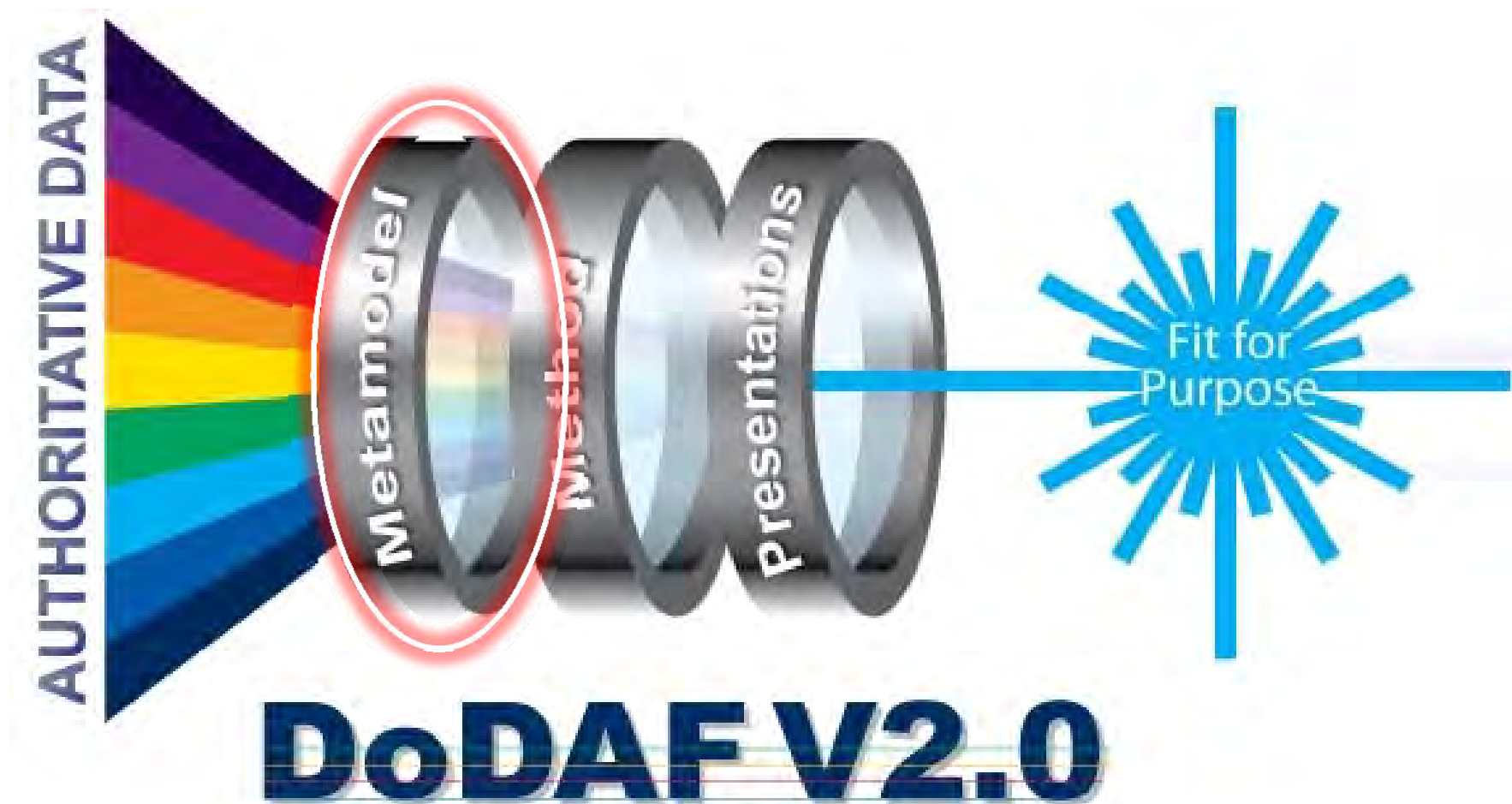
Data-Centric Paradigm



- **Prior** versions of DoDAF emphasized '**products**' (i.e., graphical representations or documents).
- DoDAF V2.0 emphasizes the **capture and analysis of data** and its relationships, rather than the creation of products.
 - **Emphasizes** on utilizing architectural data to support **analysis** and **decision-making**.
 - Greatly expands the types of graphical representations that can be used to **support decision-making activities**.
 - Supports **innovative and flexible presentation** of the architectural data in a meaningful, useful, and understandable manner.



Metamodel





DM2 Introduction



- Constrained vocabulary for DoDAF
 - For the description and discourse of models
- Federated EA data exchange specification
 - For interoperability of EA data between tools, DBs
- Supports the Net Centric Data Strategy
 - Discovery and understandability of EA data
- Precision semantics for EA analysis
 - Provides mathematical rigor to the data



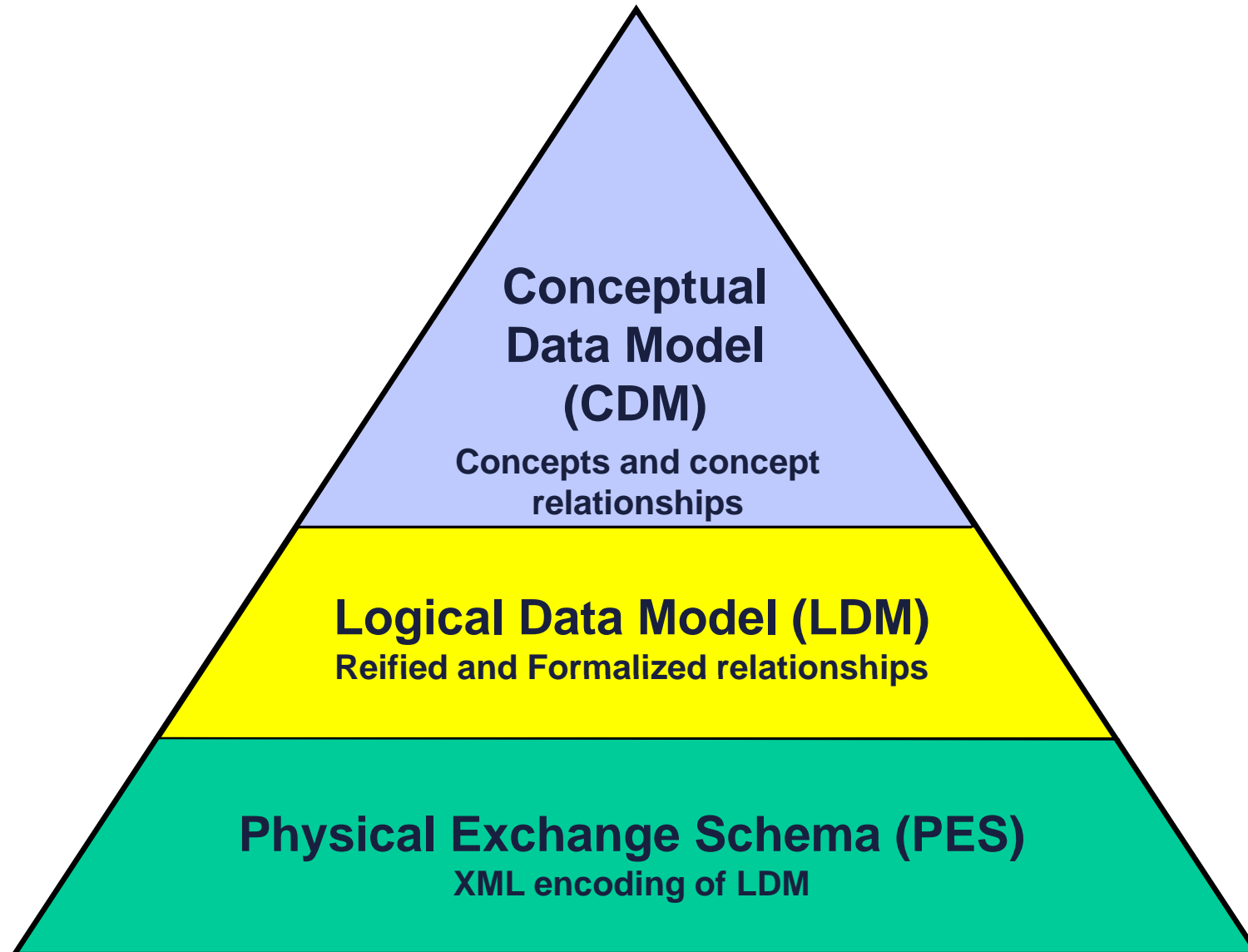
What is the DM2



- The DM2 is made up of three parts:
 - **Conceptual** Data Model
 - Key Concepts and Relationships in Non-Technical Terms
 - **Logical** Data Model
 - UML Class models that adds technical context to the CDM
 - **Physical** Exchange Specification (PES)
 - Implementation model and XSD Schemas
- Built upon the **IDEAS** Foundation
 - International Defense Enterprise Architecture Specification
 - Foundational objects (“Thing”, “Individual”, “Type”, etc.)
 - Relationship types (aka “Tuple” types)
 - “Whole/Part”, “Before-After”, Temporal, etc.”



Three Levels of the DM2





The diagram illustrates a complex system architecture with the following components and relationships:

- Guidance** (Red box) contains **Rule** (Red box).
- Activity** (Brown box) is connected to **Rule** (1), **Project** (3), **Condition** (12), **Resource** (20), **Performer** (30), and **DesiredEffect** (8).
- Project** (Brown box) is connected to **Activity** (3), **DesiredEffect** (7), and **MeasureType** (5).
- Vision** (Yellow box) is connected to **DesiredEffect** (9) and **Measure** (4).
- DesiredEffect** (Dark grey box) is connected to **Activity** (8), **Measure** (10), **Capability** (14), and **Resource** (15).
- Condition** (Green box) is connected to **Activity** (12), **Rule** (11), **Measure** (18), and **Resource** (23).
- Capability** (Dark blue box) is connected to **Resource** (26) and **Measure** (18).
- Resource** (Light blue box) is connected to **Activity** (20), **Condition** (23), **Performer** (30), **Measure** (29), and **Location** (29).
- Performer** (Light blue box) is connected to **Resource** (30), **Skill** (32), **Person Type** (35), **Service** (36), **Organization** (36), and **System** (35).
- Skill** (Brown box) is connected to **Performer** (32) and **Resource** (31).
- Person Type** (Light blue box) is connected to **Performer** (35) and **System** (35).
- Service** (Light blue box) is connected to **Performer** (36) and **Organization** (36).
- Organization** (Light blue box) is connected to **Performer** (36) and **System** (36).
- System** (Light blue box) is connected to **Performer** (35), **Person Type** (35), **Organization** (36), **System** (37), **Materiel** (37), and **Information** (34).
- Materiel** (Light blue box) is connected to **System** (37) and **Resource** (31).
- Information** (Light blue box) is connected to **System** (34), **Resource** (34), **Location** (33), and **ArchitectureDescription** (33).
- ArchitectureDescription** (Light blue box) is connected to **Information** (33) and **Data** (33).
- Data** (Light blue box) is connected to **Information** (33).
- Location** (Dark green box) is connected to **Resource** (29) and **Measure** (33).
- Measure** (Purple box) is connected to **MeasureType** (4) and **Location** (33).
- MeasureType** (Dark purple box) is connected to **Measure** (4) and **Project** (5).

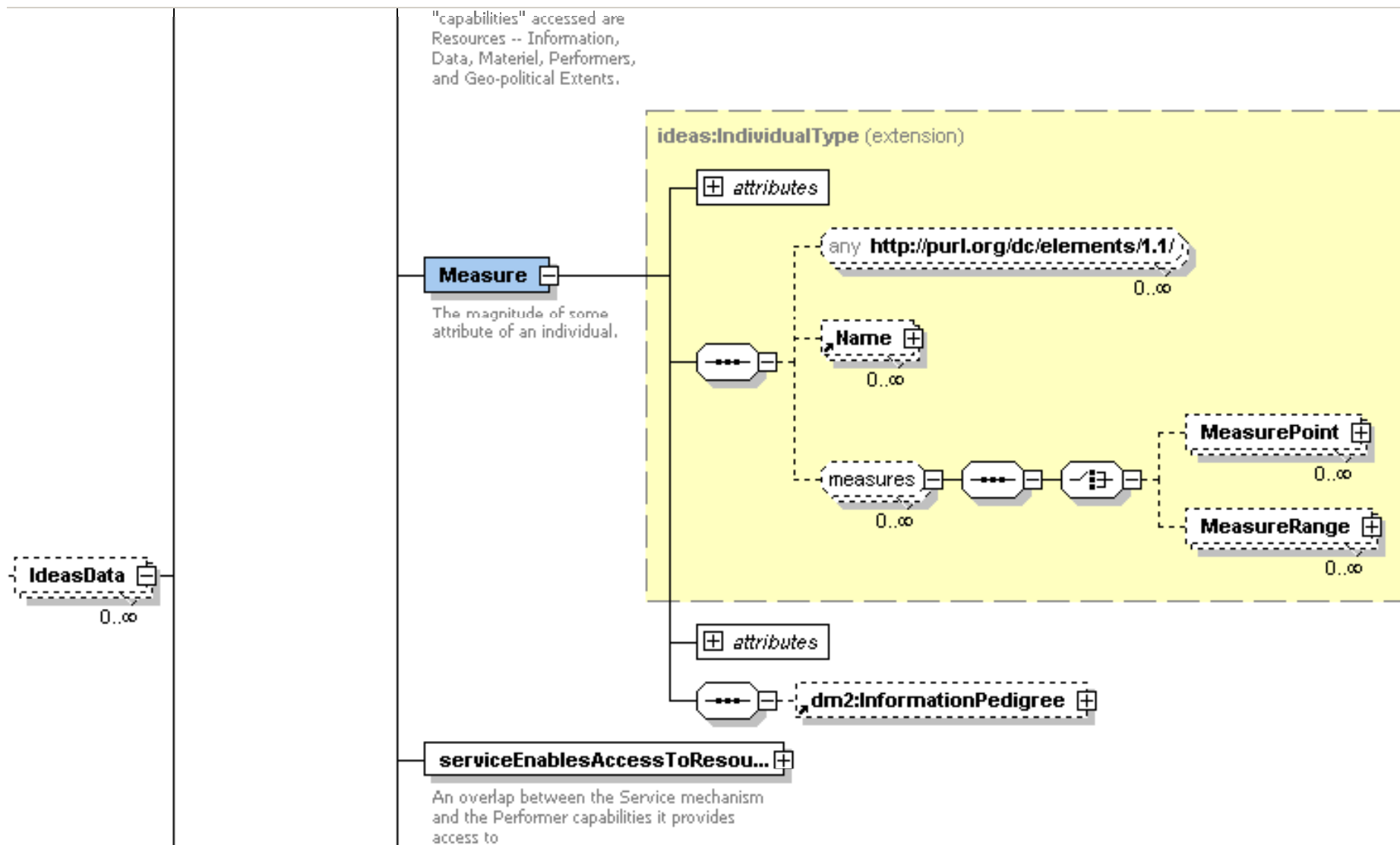


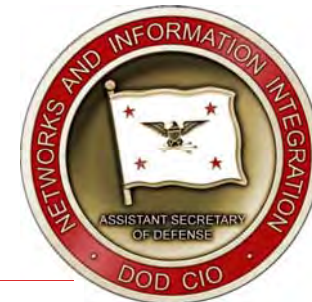
Resource Flow



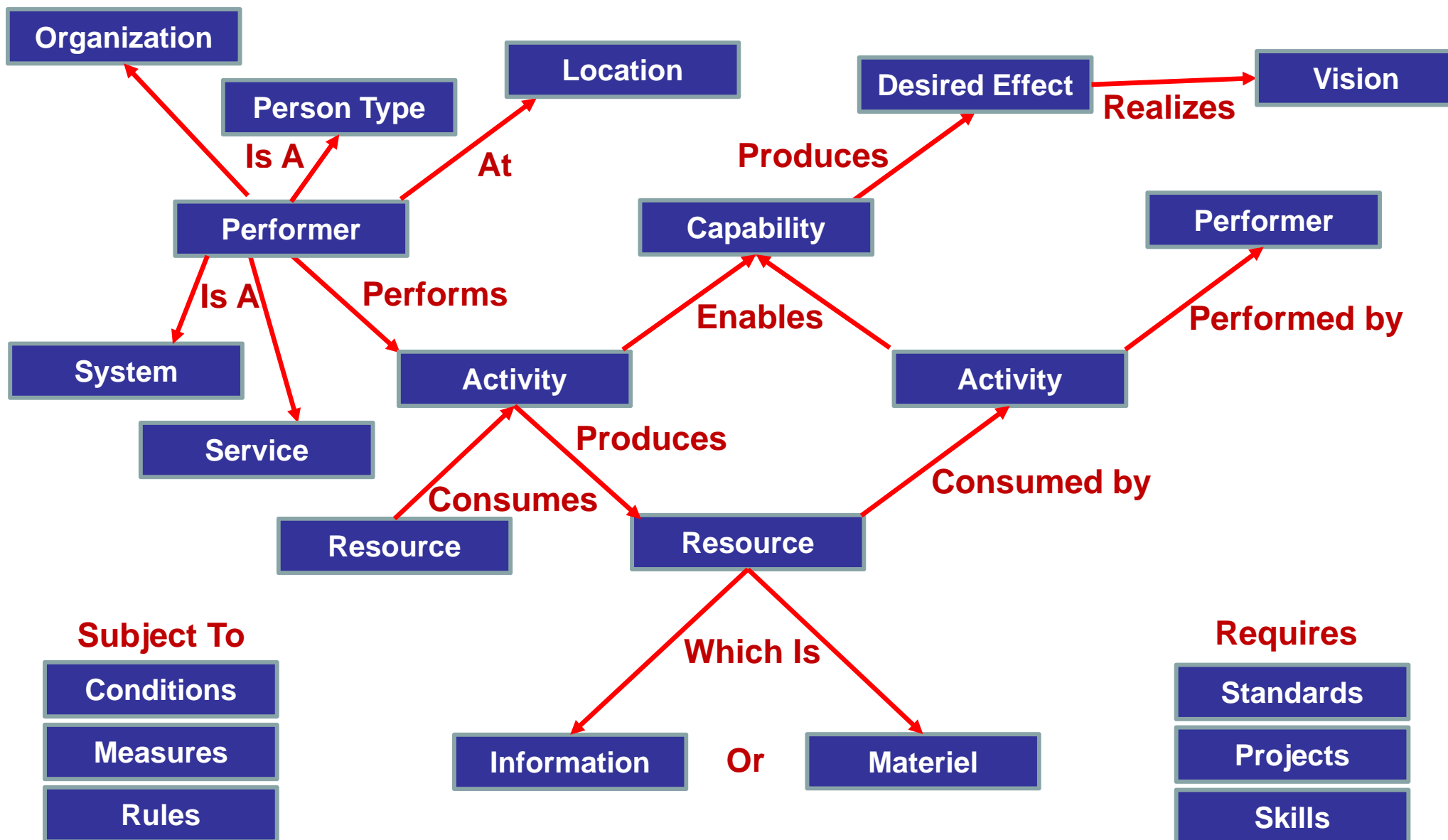


Physical Exchange Specification



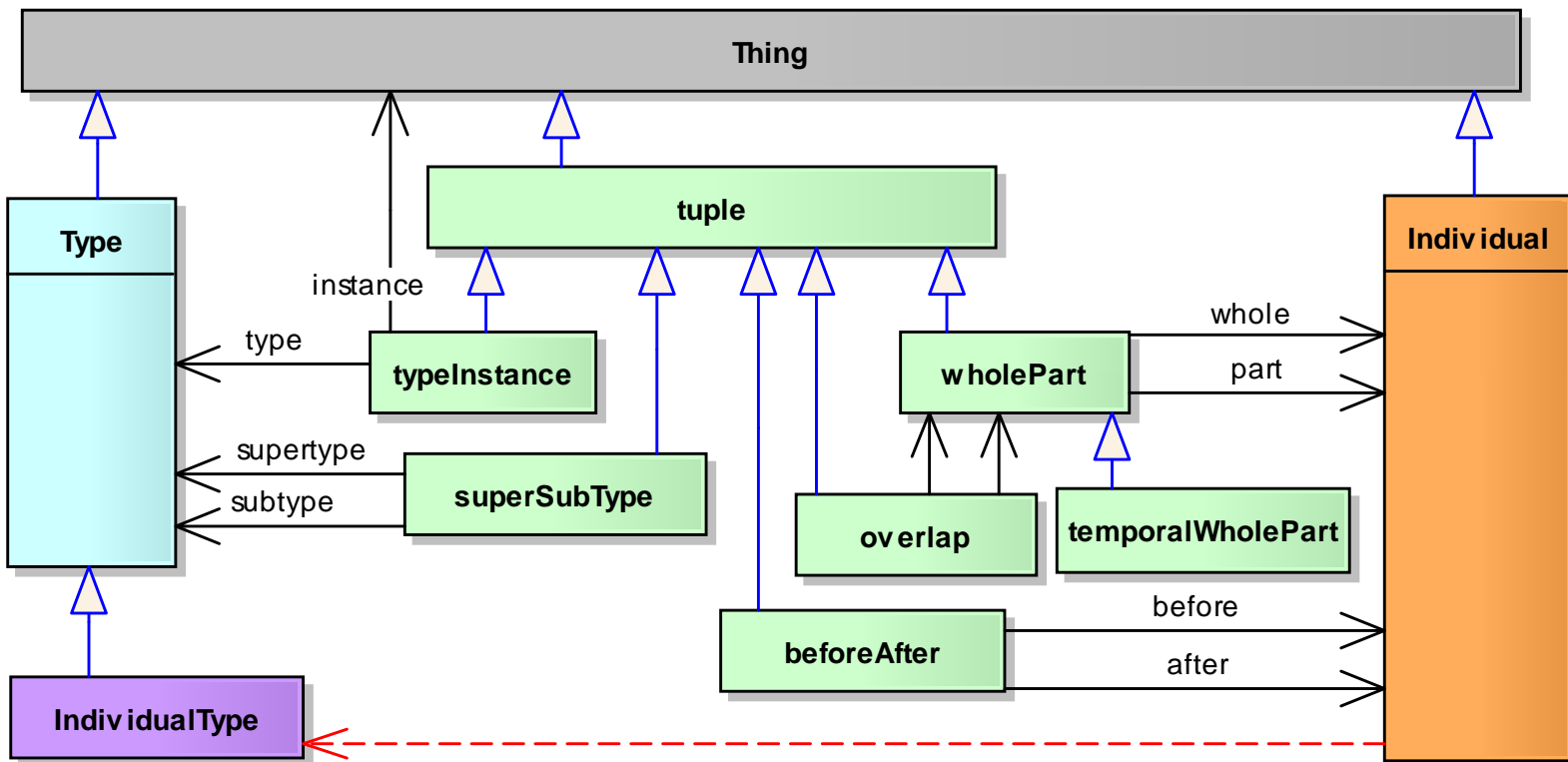


DM2 in Practice



IDEAS Foundation

- Developed by an international group of computer scientists, engineers, mathematicians, and philosophers under defense sponsorship.
- See <http://www.ideasgroup.org> or http://en.wikipedia.org/wiki/IDEAS_Group



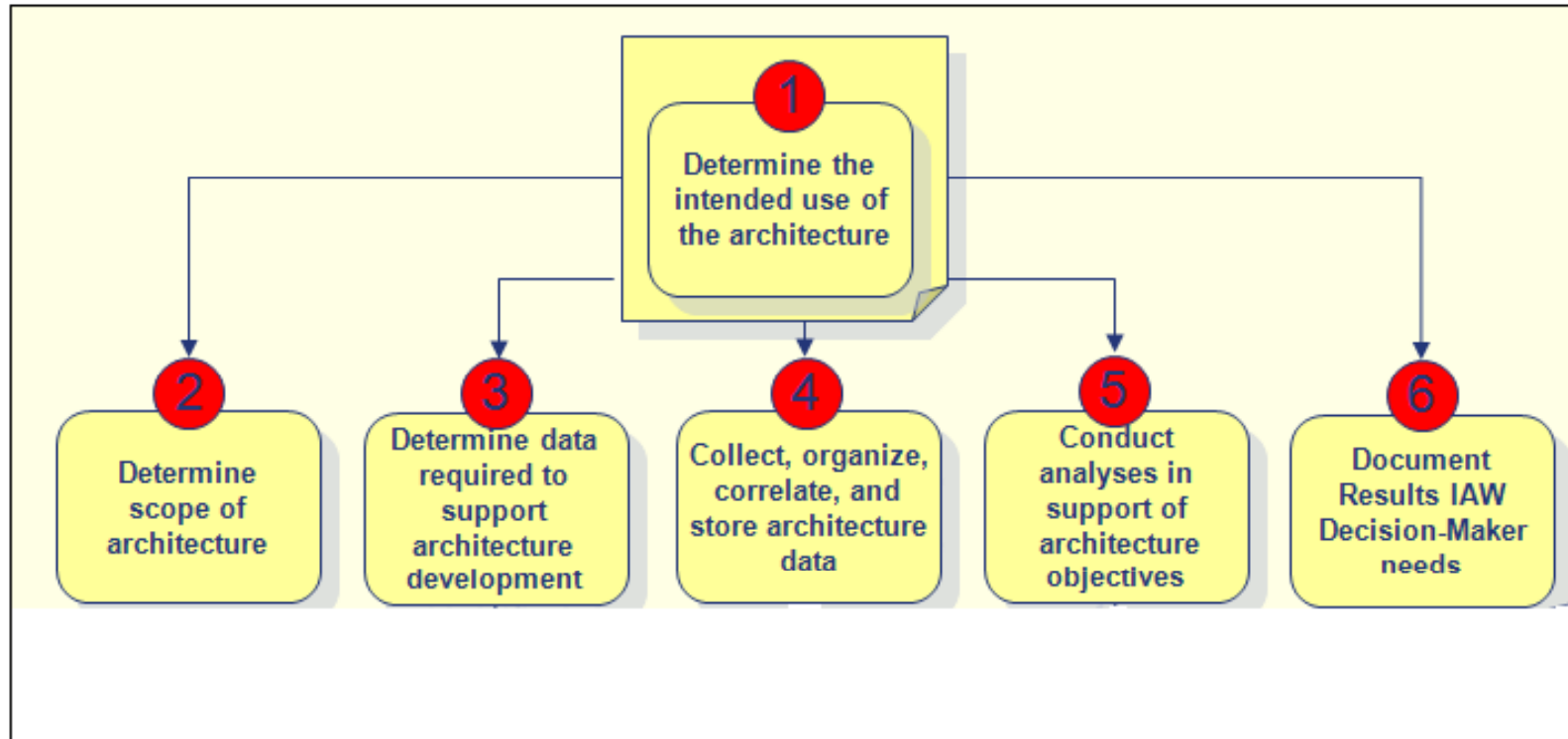


Method





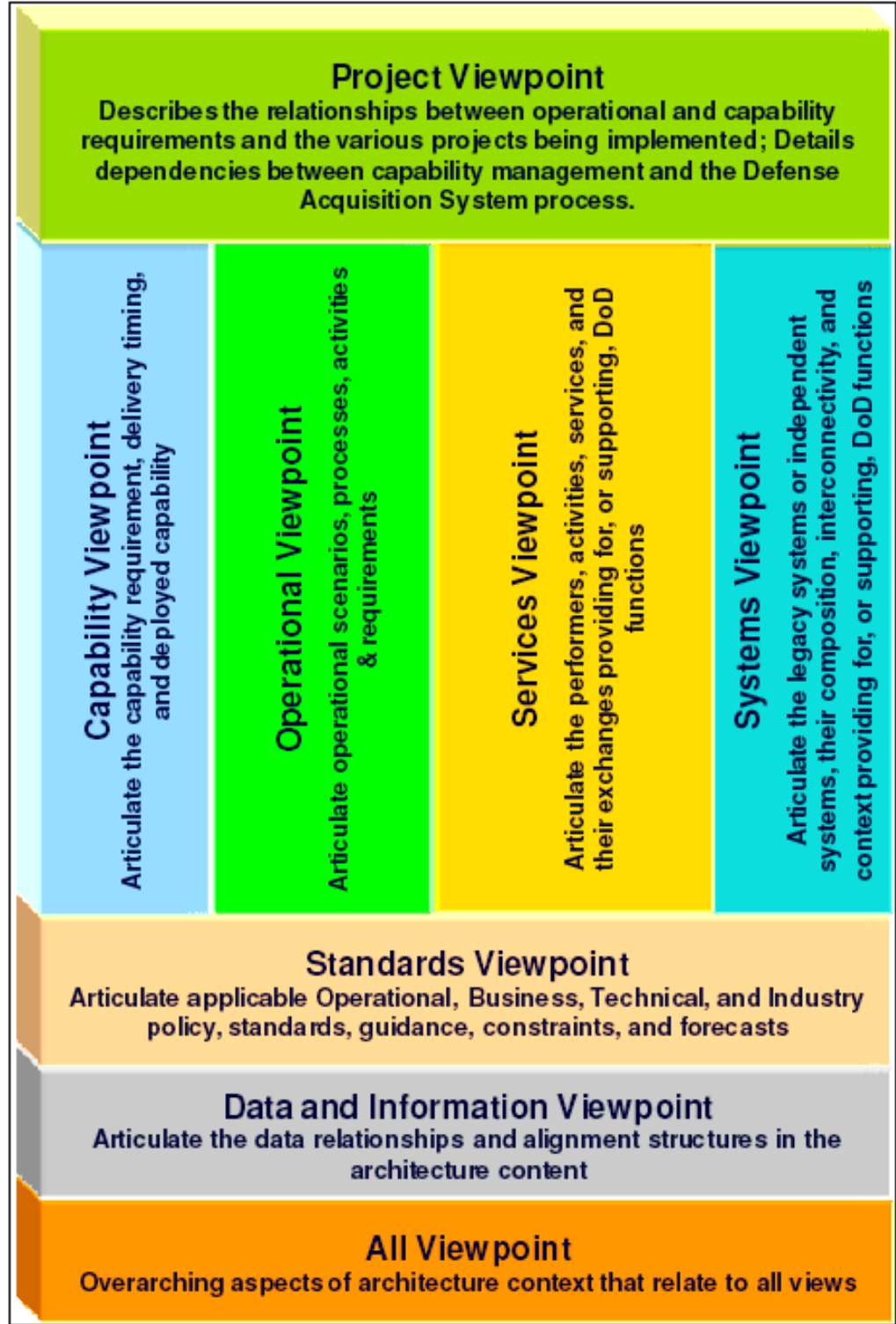
Methodology: DoDAF V2.0 Six-Step Architecture Development Process



- Determine **Use**, **Scope**, and **Data Requirements** of Architecture
- **Architect** (build models), **analyze**, and **present** (report)



DoDAF 2.0 Viewpoints

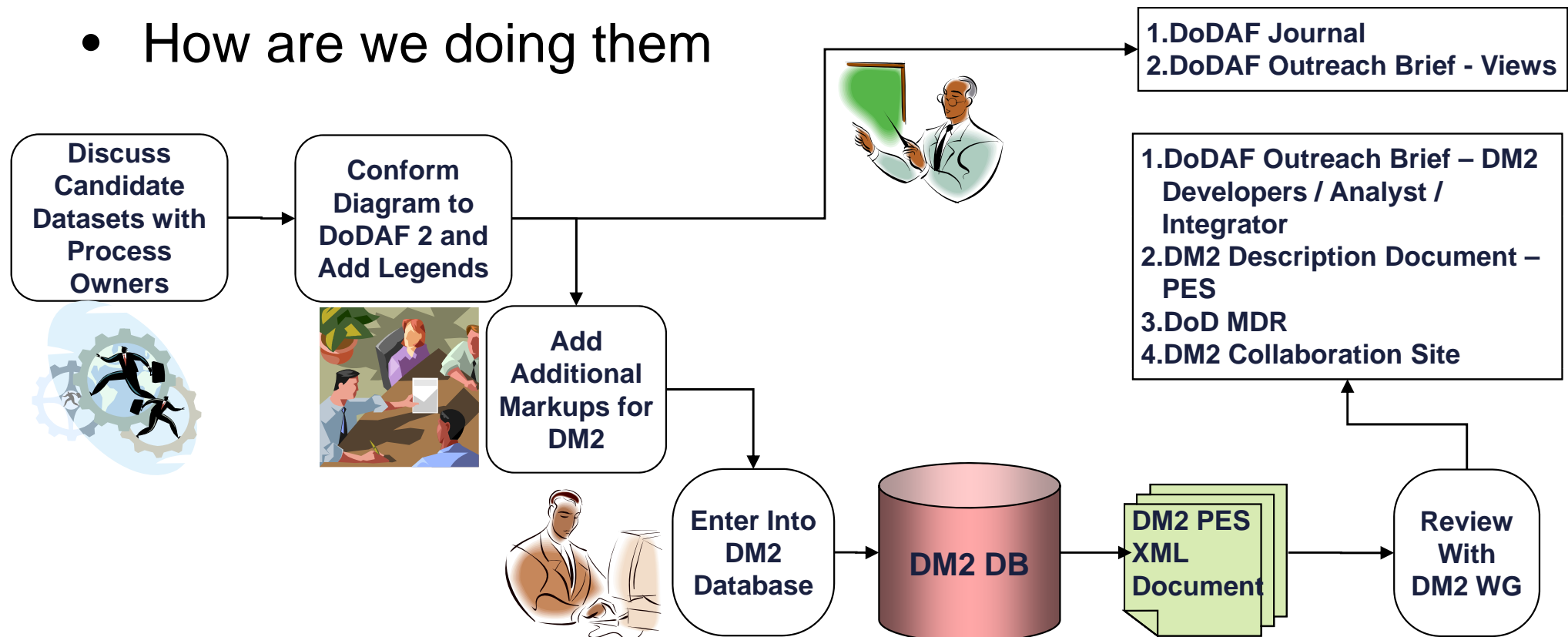




DoDAF V2.0 Exemplars

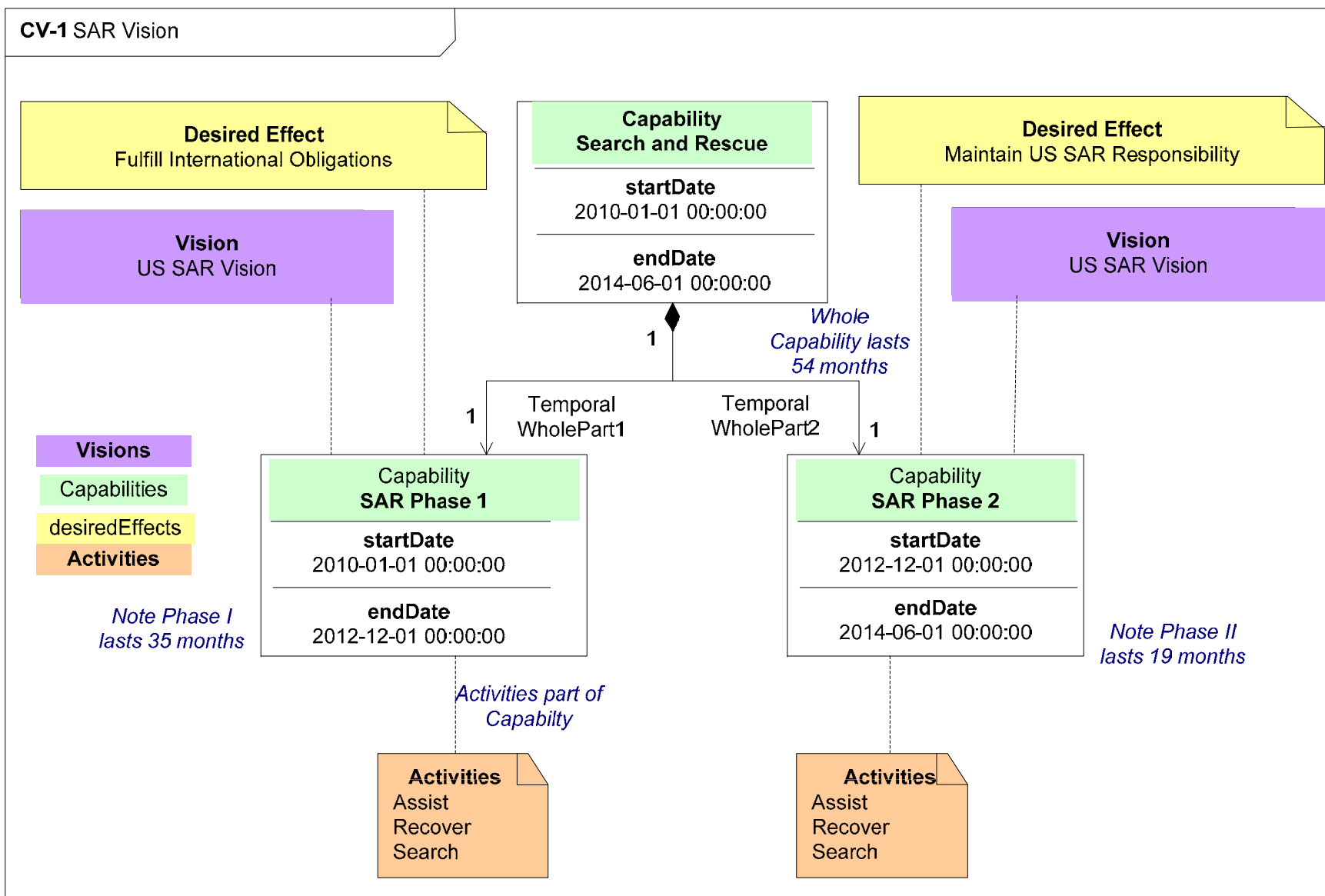


- What are they
 - Collections of architectural views and their corresponding DM2 PES XML document examples
 - From coherent datasets, e.g., UPDM S&R, NCES ISP
- How are we doing them





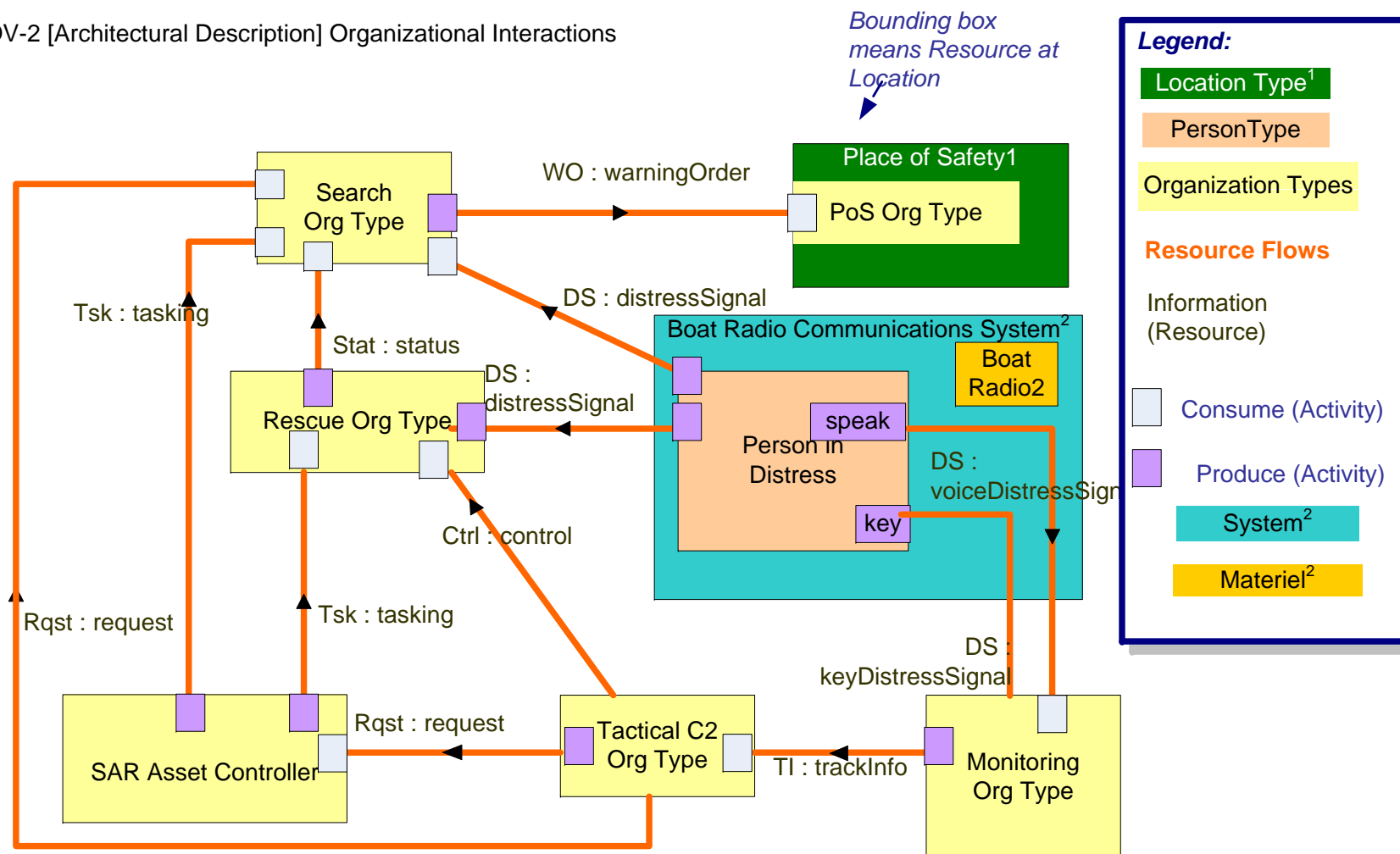
Model Examples





Model Examples

OV-2 [Architectural Description] Organizational Interactions

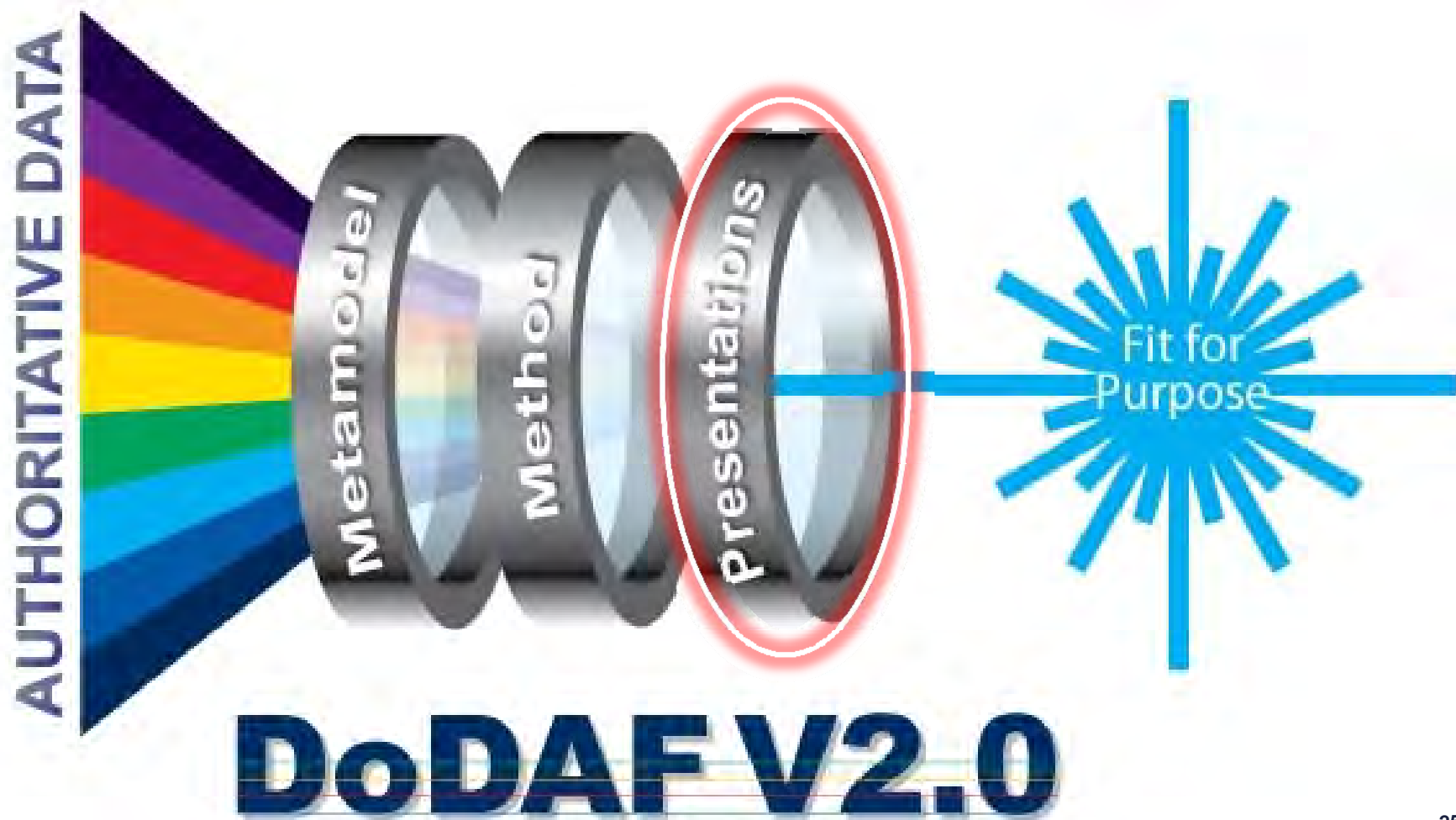


NOTE 1. Should generally not be shown in OV-2 unless an important constraint, i.e., not within the solution trade space.

NOTE 2: Should never be in OV-2 but included here for illustrative purposes to show SV-1 "bridge". Such a dataset could be defined as a "fit for purpose" dataset within a sub-COI.



Presentations





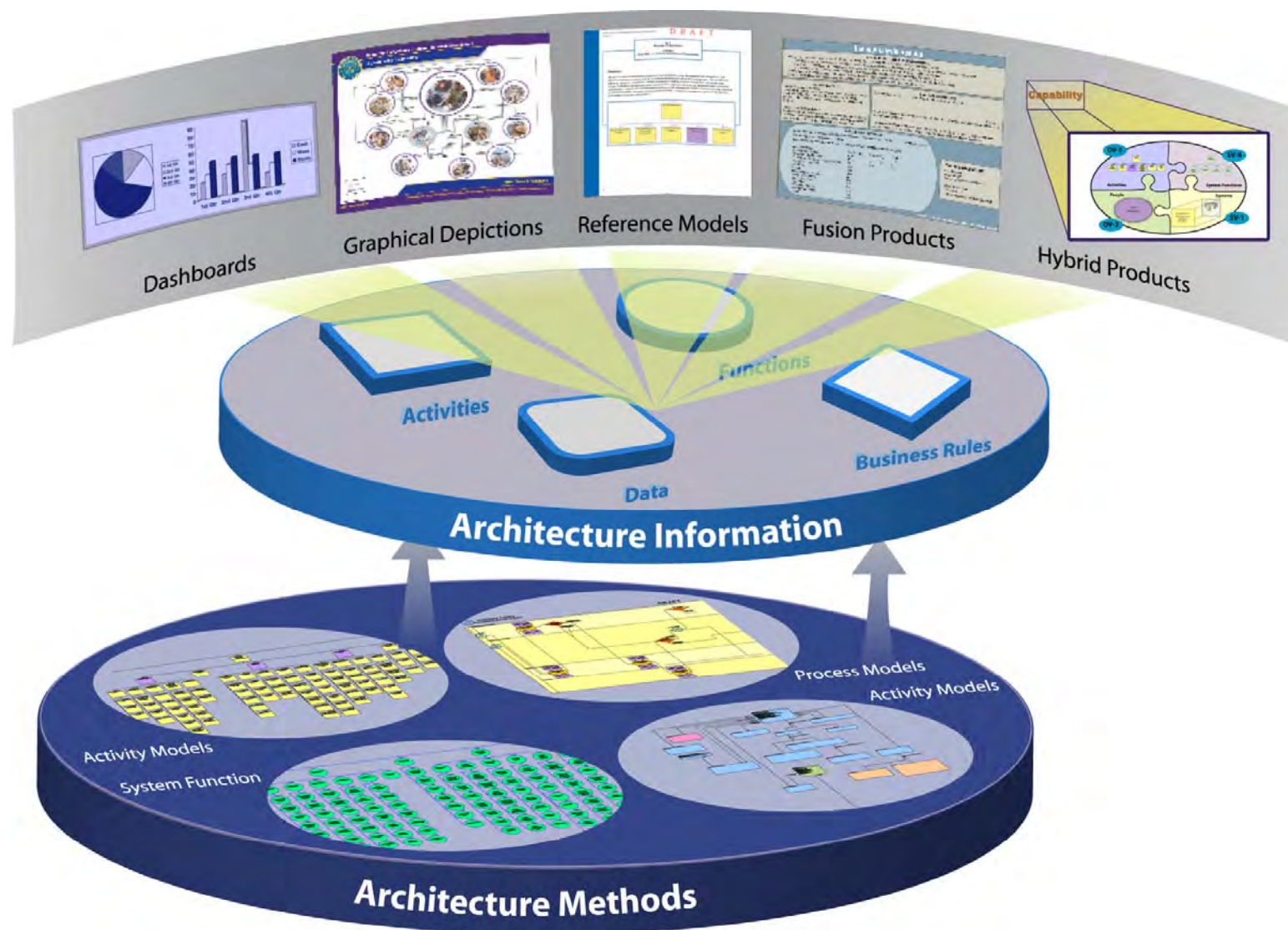
Presentation Views



- DoDAF V2.0 enables architects to provide visualizations of the collected architecture information through a combination of DoDAF-described Models and Fit-for-Purpose Views.
- ***DoDAF V2.0-described Models*** are **templates** for creating architecture views (i.e., OV-2, SysV-4) of the architecture data.
- ***Presentation Views*** allow the architect to **present** the **data** in **views commonly** used by **information consumers**.

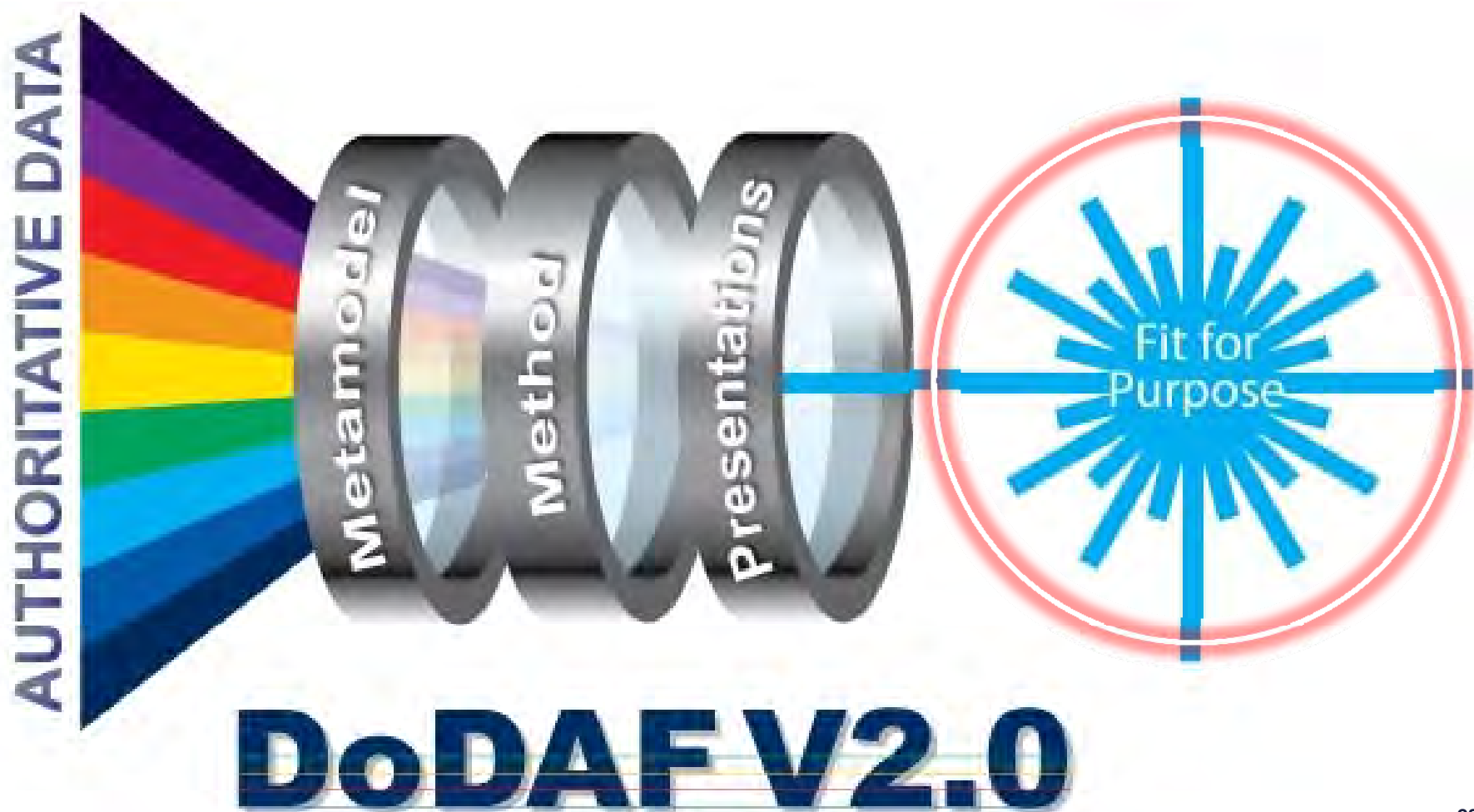


Presentation Views





“Fit-for-Purpose”





“Fit-for-Purpose”



- Is an architectural view that is appropriately **focused** on supporting the **stated goals** and **objectives**.
- Is **meaningful** and **useful** in the decision-making process.
- **Encourages** the architect to **focus** on collecting **data** and creating views that are **customized** to the **decision-maker's value chain**.
- Architectural data and views are **aligned** to the **information consumer's needs**.



Web Enabled





DoDAF V2.0 Moved to Web-Based Collaboration Environment



- DoDAF V2.0 will be promulgated via the DoD CIO/NII website and not published as document.
 - Promoting collaboration among the DoDAF community
 - Improved ability to locate information
 - Facilitate changes & updates to DoDAF guidance

The official and most current DoDAF V2.0 content is located on the government websites.



DoDAF V2.0 Website Overview



- Public DoDAF Website
 - Open to public
 - Hosted on the DoD CIO/NII website
 - <http://cio-nii.defense.gov/sites/dodaf20/>
- Private DoDAF Website
 - Need Government Sponsor
 - Need Account
 - Change Request Submission
 - Hosted on DKO Homepage
 - <https://www.us.army.mil/suite/page/454707>



Public Website

<http://cio-nii.defense.gov/sites/dodaf20>

The screenshot shows the DoDAF Architecture Framework Version 2.0 website as it appeared in a Windows Internet Explorer browser. The browser's address bar displays the URL <http://cio-nii.defense.gov/sites/dodaf20/index.html>. The website's header features the DoDAF logo and the text "DoD Architecture Framework Version 2.0" and "DoD Deputy Chief Information Officer". A search bar is located in the top right corner. The main content area is divided into a left sidebar and a main body. The sidebar contains a "Department of Defense" section with links to "Introduction", "What is New in DoDAF V2.0", "Navigate by Content", "Vision for DoDAF V2.0", "Architecture Resources", "DoDAF V1.5 Support", "Relationships to other Frameworks", "Background", "Architecture Development", "Viewpoints", "Models", "DM2", "Navigate by Role", "Manager Role", "Architect Role", and "Developer Role". The main body features a section titled "The DoDAF Architecture Framework Version 2.0" with a welcome message and a paragraph explaining the framework. Below this is a diagram illustrating the DoDAF V2.0 framework, showing a funnel of "AUTHORITATIVE DATA" leading to three cylinders labeled "Metamodel", "Method", and "Presentations", which then lead to a starburst labeled "Fit for Purpose". The diagram is labeled "DoDAF V2.0". The browser's taskbar at the bottom shows the Start button and several open applications: Microsoft Office Outlook, Internet Explorer, DoDAF 2 Plenary Out..., and Microsoft PowerPoint. The system clock in the bottom right corner indicates the time is 10:48 AM.



Private DoDAF Website – DKO

<https://www.us.army.mil/suite/page/454707>



Army Knowledge Online - shelton.lee - Windows Internet Explorer

https://www.us.army.mil/suite/portal/index.jsp

File Edit View Favorites Tools Help

GoToMeeting : Web confere... Army Knowledge Online - ...

The United States Department of Defense
Assistant Secretary of Defense
(Networks & Information Integration)
DoD Chief Information Officer

Email Files Discuss Groups IM Forms Video People Help Logout

Home My Account Favorites Quick Links Self Service Search... AKO Content Search

DoDAF Homepage (Related Content) Options

AKO Home > DoD Organizations > OSD > ASD (NII) / DoD CIO > DCIO/DASD Information Management, Integration and Technology > Directorate - Enterprise
Architecture and Standards > DoDAF Homepage > DoDAF Homepage

Welcome to the DoDAF Homepage Options

The **DoDAF Homepage** contains:

- The formal **DoD Architecture Framework** documentation (V2.0, V1.5, and V1.0)
- The **DoDAF Journal**, an area for supporting files. It includes the files that support the DoDAF V2.0 Volumes, which will include examples, best practices, and community input.
- The DoDAF Configuration Management process
- Provides a channel to submit **Change Requests**. Change Requests and requests to add files to the DoDAF Journal will be processed in accordance with the Configuration Management process. Change Requests can be submitted for DoDAF and the DoDAF Journal below in the "DoDAF and DoDAF Journal Change Requests". Files can be uploaded by users in the "DoDAF Journal Knowledge Center Channel". This will initiate the CM process, however, the files will need to be approved before they will be visible.

DoDAF Announcements Options

15 Jan 2010 14:13 GMT

DoDAF V2.0 has been posted to DefenseLink and is available to the public. » DoDAF V2.0

Current « Previous | Next » Archived

DoDAF Documentation Options

DoD Architecture Framework (DoDAF) Personal and Teams

Show 10 20 [50] 100

Details View

Version 1-0 4 files Version 1-5 4 files Version 2-0 2 files

start Microsoft Office... 7 Internet Explorer DoDAF 2 Plenary ... Microsoft PowerPo... PowerPoint Slide S... 11:06 AM



Change Request Information



- DKO DoDAF V2.0 Homepage,
<https://www.us.army.mil/suite/page/454707>,
- Under the “DoDAF and DoDAF Journal Change Requests” channel
 - Select “Open a Topic” to initiate a Change Request
 - Initiated Change Requests will be reviewed and adjudicated monthly by DoDAF and DM2 Working Groups
 - Approved Change Requests will be updated in DoDAF 2.01



DKO DoDAF V2.0 Homepage

<https://www.us.army.mil/suite/page/454707>



Army Knowledge Online - shelton.lee - Windows Internet Explorer

https://www.us.army.mil/suite/portal/index.jsp

File Edit View Favorites Tools Help

Army Knowledge Online - shelton.lee

Details View

Additional Models 3 files

Architecture Evaluation 4 files

Architecture Process 3 files

DoDAF Configuration Management 0 files

DoDAF V2 Spiral 4 Comments 10 files

Other Information 16 files

Initiate Change Request Here

DoDAF and DoDAF Journal Change Requests Options

DoDAF Change Requests (Group: DoDAF)

1 - 5 of 12 [1] 2 3 Show 10 20 50 100

Create a Topic Remove from Favorites

Topic	Last Message
Videos of DoDAF V2.0 Sessions	16 Feb 2010 14:52 GMT By: charles.thornburg
Change management Pages	16 Feb 2010 12:52 GMT By: charles.thornburg
Training Resources	16 Feb 2010 12:50 GMT By: charles.thornburg
UJTLS in AV-2	12 Feb 2010 15:07 GMT By: charles.thornburg
Activities and Functions	12 Feb 2010 15:04 GMT By: charles.thornburg

1 - 5 of 12 [1] 2 3

DoDAF Links Options

No links

Inside AKO | Help | Terms of Use

© 2001-2010 United States Army

Done

start Microsoft Office O... DoDAF Plenary Microsoft Office P... Army Knowledge Onli...

Internet 100% 4:37 PM



DoD Enterprise Architecture Conference



The image shows a large, curved, metallic structure resembling a globe or a futuristic interface, with binary code (0s and 1s) overlaid. The structure is composed of many small, rectangular panels. The panels display various text elements related to DoD Enterprise Architecture.

- Information Enterprise Architecture
- Provide Data & Services Deployment
- Provide Secured Availability
- Provide Discovery Services
- Provide Assured Control of the GIG
- Core
- Provide C&A Services

- San Antonio, TX
- May 10-14, 2010
- Register at:
WWW.DODENTERPRISEARCHITECTURE.ORG
- Co-hosted by Architecture, Standards, and Interoperability Directorate, DoD Deputy CIO and Joint Staff



Questions